

KELLOGG (J.H.)

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THE



Cure OF Incurables.



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1891

J. H. KELLOGG, D. D.

How to prevent the return of the disease



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THE CURE OF INCURABLES.

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THE purpose of this paper is to call attention briefly to the methods by which a very large proportion of cases which are to a great extent abandoned as intractable, and which are incurable under ordinary conditions, may be cured by the aid of special therapeutic measures and such changes of regimen and environment as will remove exciting and predisposing causes and establish favorable conditions.

I wish at the outset to disclaim any pretension of extraordinary skill or wisdom in dealing with this or any other class of cases, my purpose being simply to show what can be accomplished in a case which is incurable under ordinary conditions by focusing, as it were, upon the case at one time and in one place the various resources offered by scientific medicine. I have often seen cases which have been for years abandoned as hopelessly ill, yield readily to a judicious combination of measures, many of which had been used singly, but which had never been applied in connection. The cure of chronic cases must be achieved on the same principle as that by which a heavy building is raised. A single jackscrew, although powerful and efficient, can accomplish nothing in so great an undertaking, while a hundred worked together will easily achieve what is apparently impossible.

A combination of physiological measures and rational remedies often results in the cure of cases, which from the standpoint of a practitioner familiar only with the application of ordinary remedial measures, would be justly regarded as absolutely incurable.

Among the disorders to which the term "incurable" is very commonly applied may be enumerated: Chronic rheumatism,

locomotor ataxia, dilatation of the stomach, infectious jaundice, diabetes, Bright's disease, and exophthalmic goiter; and cases are not infrequently met in which patients suffering from asthma, hysteria, chlorosis, progressive emaciation, dyspepsia in its various forms, obesity, epilepsy, tuberculous disease of the lungs, insomnia, melancholia, migraine, tic douloureux, functional pelvic disorders of women, and the protein disorders included under the general term uric-acid diathesis, have so stubbornly resisted all measures of treatment that they have been pronounced incurable by one practitioner after another, and the case has come to be regarded as practically hopeless.

It is not the purpose of this paper to enter upon an exhaustive consideration of either the pathology or the therapeutics of the various maladies named, but to present a brief outline of the general and particular methods by which stubborn and so-called hopeless cases belonging to these various classes have been successfully treated, together with a few briefly stated illustrative cases.

The general principles which the writer has followed for something more than twenty years in the treatment of chronic ailments may be stated as follows:—

1. The chronic invalid is, as a rule, sick as the result of some fault of constitution, of environment, or of habits of life. In undertaking a course of treatment for his relief, first attention must be given to the removal, so far as possible, of every immediate or remote cause of his malady.

2. The cure of chronic maladies is to be accomplished, not by any process of antidoting, nor by what might be termed therapeutic juggling in the use of tonics, stimulants, alteratives, sedatives, cholagogues, laxatives, diuretics, etc., nor by medical magic of any sort, but by control of the regimen, systematic training, education, and the employment of such physiological agencies as hydrotherapy, electrotherapy, active and passive exercise skilfully and systematically employed, change of environment or climate in some cases, and the adoption of every measure calculated to establish normal conditions for every bodily function, not neglecting such attention to the patient's mental and moral states as may be required.

3. The chronic invalid is sick, not in one part only, but all over. What he needs is not simply an improvement in the condition of his stomach, his liver, his nerves, or any other single organ, no matter how conspicuous the symptoms may be in this particular part, but a general tissue renovation and reconstruction. He needs to be born again physically, so to speak, and no permanent improvement can be secured by any process which stops short of the complete rebuilding of the entire body.

4. Those means are most effective in the treatment of chronic disorders which most profoundly and favorably effect tissue change and repair. No remedies are of real or permanent value except those which secure an actual improvement in bodily structure. The long list of tonics, stimulants, rejuvenants of various sorts, the administration of which is followed by an immediate quickening of vital activity, and a feeling of comfort and well-being, are, without exception, delusive in their effects, and unless employed merely as temporary expedients, are highly injurious and in no way conducive to actual recovery, as they only hide the real condition of the patient, giving him the impression that he is better, whereas he is really no better, but rather worse.

Tonics or stimulants do not produce an actual increase of strength or vigor, but only render it possible to get out of the exhausted nerve-centers or other organs a little more work without giving them an increased ability for work, thus still further lessening the body's store of energy, and so making the patient really worse instead of better. Therefore in the rational treatment of chronic disorders they must play but a very insignificant rôle. What the chronic invalid wants is not simply to be made to *feel* better, but to be made *actually* better.

The wonderful developments in bacteriology and physiological chemistry within the last few years, and the important facts to which Bouchard and Glenard have called attention in showing the intimate relation existing between various forms of visceral displacement and many nervous and other chronic disorders, and the wide-spread mischief resulting from the formation of various poisons within the alimentary canal and

their distribution throughout the body, as seen in functional disturbances of various sorts, and even tissue degenerations, giving rise to various forms of paralysis and organic disease of the kidneys, liver, and other organs, have thrown a great flood of light upon the pathogeny of a great number of disorders, and have opened up new paths in therapeutics which lead to success in cases which had previously proved utterly refractory to therapeutic measures now known to have been necessarily futile, because misdirected.

For more than twenty years I have devoted myself almost exclusively to the treatment of chronic ailments, and a great majority of my patients have been persons who had been long ill, and who had resisted the use of medicinal and other ordinary medical means. With few exceptions my patients have been sent to me by physicians who themselves recognized the futility of methods of treatment accessible to their patients at home, and the necessity of more thoroughgoing measures. Not infrequently physicians write me, as did one of considerable eminence as a specialist in nervous disorders, who, in his letter introducing his patient, remarked, "I have had this patient under treatment for nine years. I have been giving him all the tonics known to the *materia medica*, but he is no better; he gets steadily worse, and I have made up my mind that he requires a course of physiological stimulation." This is the situation of the average chronic invalid; he requires, not artificial, but physiological stimulation. This sort of stimulation comes from the relief of overburdened organs and the facilitation of all the vital processes by careful regulation of habits and the application of such therapeutic measures as will aid eliminative, recuperative, and other vital processes. How this may be accomplished in the various classes of chronic cases it is the purpose of this paper briefly to outline and illustrate.

I have accordingly selected a few typical classes of cases which are generally regarded as either incurable or so intractable that little or no encouragement can be properly given the patient, and will proceed to outline briefly the special therapeutic measures and regimen which I have found successful in dealing with each particular class of cases.

BRIGHT'S DISEASE.

There is no disease in which more satisfactory results can be obtained by treatment than in this disease, formerly regarded as so hopeless. Of course it is not to be expected that a patient suffering from Bright's disease will be made absolutely sound; that is, that that portion of the kidney structure which has been actually destroyed will be reproduced. Nevertheless, in quite a large proportion of cases, every morbid symptom may be made to disappear, and the patient may be established in a routine of diet and regimen by the careful following of which he may enjoy excellent health and even long life.

In the treatment of this disease, it must be remembered that in at least a large proportion of chronic cases the disorder is the result of the long-continued irritation of the kidneys by toxic substances absorbed from the alimentary canal, these having been received with the food, or developed in the stomach and intestines by abnormal fermentations.

The relation of stomach and intestinal fermentations and decompositions through the action of microbes to disorders of the kidney and to so-called uric-acid poisoning has been very clearly pointed out by Bouchard in his wonderful work, "The Auto-Intoxications," as well as by his pupil, Rogers, who has carried still further the interesting researches begun by his master. The kidneys are in a crippled condition, hence are able to do less work than healthy kidneys; and they are in a condition very susceptible to irritation, hence especially liable to injury from irritants of any sort, whether received from without or developed within the body, or from disturbances of the circulation resulting from exposure to cold. Keeping these facts in mind, the general plan of treatment pursued with this disease, is as follows:—

1. Absolute rest in cases of acute Bright's disease and during acute exacerbations in chronic cases. Exhaustion from muscular effort must at all times be carefully avoided on account of the danger of overwork to the kidneys in the elimination of fatigue poisons.

2. An aseptic dietary, which means the absolute disuse of flesh foods, especially fish, oysters, and shell-fish of all kinds, which readily undergo decomposition in the alimentary canal,

producing toxins and ptomains which require elimination through the kidneys, and hence may increase their work to an enormous degree.

Bouchard called attention to the fact that the fecal matter of persons eating meat have a toxicity several times greater than that of a person living upon a non-flesh diet. In experiments made a few years ago I found that a flesh diet increased the toxicity of the urine fourfold. In this case the amount of urea in the urine was also increased fourfold, or from twenty-four grains to ninety-six grains per diem.

In a case investigated by Bouchard in which there was clear evidence of intestinal infection, the urine was found to contain fifty times the normal amount of toxic substances. Kidneys exposed to such an influence as this must necessarily be irritated and imperiled to a high degree. In extreme cases it is necessary to confine the patient to the simplest and least toxic foods. A milk diet is sometimes advantageous. Gilbert and Dominici showed that an exclusive milk dietary in two days reduced the number of microbes from 67,000 germs per milligram to 1350. I have found, however, that in many cases ordinary milk does not agree well with patients, especially in cases of dilatation of the stomach. The reason of this has been shown by Glenard to be that the dilated stomach is likely to retain fragments of hardened casein until decomposition is set up. In such cases I have found kumyzoon, an improved kumyss, of great advantage. Kumyzoon is made by the addition of a pure culture of yeast to sterilized milk without the addition of sugar. The milk is then charged with CO_2 , and the resulting fermentation is practically non-alcoholic.

Dr. Backer, in a remarkable work entitled "*Les Ferments Therapeutique*" ("*The Therapeutic Ferments*"), has shown that yeast-cells possess the property of phagocytosis, which in part explains the special value of kumyzoon as a means of securing intestinal asepsis.

Fruits, nuts, and farinaceous preparations can ordinarily be employed with excellent advantage in these cases, though during an acute attack I have found a diet exclusively confined to milk, buttermilk, or kumyzoon most serviceable. Mustard, pepper, and condiments of all kinds must be avoided,

likewise tobacco, alcoholic drinks, and tea and coffee. Cheese and other decomposing foods must of course be excluded from an aseptic dietary.

3. The patient must dress in woollens at all seasons of the year, and should carefully avoid chilling the surface. His habits must be temperate in every respect. Sexual excesses are in the highest degree damaging, and every form of physical exhaustion must be avoided as likely to precipitate at any moment an acute exacerbation of the disease.

4. Drugs are of little or no value in these cases. Diuretics are in the highest degree detrimental, as well as mineral waters of all sorts, because of the crippled condition of the kidneys, which need rest and relief rather than additional burdens. The patient may drink from two to four pints of distilled water daily. Very hot and very cold baths should be avoided. The patient should take tepid baths two or three times a week, and each day be subjected to vigorous friction of the skin either with a dry flesh-brush or with moist salt.

Care must be taken in the administration of massage, especially at the beginning of the course of treatment, as otherwise an excessive amount of muscle poisons may be suddenly thrown into the circulation. Centripetal friction and superficial kneading, or fulling, are the most suitable measures. Swedish movements, breathing exercises, very light calisthenics, and light apparatus work in the gymnasium are indicated. It is important, however, that the exercise should be based upon a careful determination of the total strength of each group of muscles by the dynamometer (see paper by the author entitled "A New Dynamometer," etc.), together with a careful determination of the urotoxic coefficient and the coefficient of nitrogen oxidation. The latter determination must be carefully made in each case at the beginning of treatment, and at frequent intervals while the patient is under observation.

The urotoxic coefficient is determined by injecting the urine of the patient into a vein of a rabbit's ear until death is produced, then comparing the amount of urine required to kill the rabbit, the weight of the rabbit, and the weight of the patient with the total quantity of urine produced in twenty-four hours by the patient. The normal coefficient is .46. A low coeffi-

cient indicates that the kidneys are not able to do the normal amount of work in the elimination of poisons, and shows at once the necessity for the strictest adherence to asepsis in diet and careful attention to all the precautionary measures whereby the development of poisons in the alimentary canal may be limited, while proper methods are used to increase the efficiency of the kidneys without overstimulating them. This is best done by means of the warm enema, with the retention of as large a quantity of water as possible, by copious water-drinking, the use of the wet girdle, or *umschlag*, massage of the legs, fomentations over the region of the kidneys, and abdominal massage.

Case 1.—A lady aged sixty-two years. Examination showed diminished quantity of urea and enormous amount of albumin. When heated in a test-tube with acid, the urine became almost solid. This patient had suffered from chronic malarial poisoning, for the relief of which her physician had administered large doses of quinine, daily, for some weeks. It was found that the administration of quinine always produced a great increase in the proportion of albumin in the urine. The malarial paroxysms, which still continued in full force, were finally subdued by means of hydrotherapeutic applications, and after a few weeks the albumin had entirely disappeared. The patient returned home after five or six months, enjoying excellent health. The extreme anemia had entirely disappeared, together with all the malarial symptoms. The patient had gained in flesh, had plenty of color in cheeks and lips, and has remained in good health ever since, now some eight years.

Case 2.—A young man aged eighteen, suffering from acute Bright's disease, with general dropsy. His friends believed the attack to be due to an overdose of turpentine administered by a physician while the young man was suffering from an attack of typhoid fever. The urine showed an enormous quantity of albumin. At the end of three months the albumin had entirely disappeared, and the young man has remained in good health since, although some fourteen years have elapsed.

Case 3.—A boy aged fourteen years, suffering from an acute attack of Bright's disease, the cause of which was not apparent. There was general dropsy to an extreme degree and almost complete loss of vision from retinitis albuminuria.

After three or four months' treatment in accordance with the principles above outlined, the albumin had entirely disappeared, and the patient has now remained well for thirteen years.

Case 4.—A young man aged eighteen years, a resident of Ontario, had suffered from Bright's disease for a little more than two years. The amount of albumin present in the urine was enormous. The patient was very weak, emaciated, and dropsical. At the end of two months he had made excellent improvement, was able to walk without inconvenience two or three miles at a time, and considered himself almost entirely well. He went on a two days' visit to Chicago, tramped about the city all day, and ate several "square meals," as he called them. On his return he complained that he was not quite so well. He was confined to his bed in forty-eight hours, and in a week was dead, in spite of all that could be done for him, evidently the result of dietetic and other foolish digressions while in Chicago.

Case 5.—Mr. J. H. W., aged seventy, for many years a smoker, and also addicted to the use of alcoholic liquors, had suffered from Bright's disease for twelve years. Examination of the urine showed four and one-half per cent. of albumin. The albumin was gradually reduced to one and one-half per cent., and finally disappeared entirely at the end of two weeks' treatment. Both alcohol and tobacco were of course interdicted.

Case 6.—Mr. P., of Ohio, aged seventeen, had suffered from Bright's disease for two years. Examination of the urine showed twenty-five per cent. of albumin. In less than a month the albumin has been reduced one and one-half per cent., and is still diminishing. He is still under treatment.

DIABETES.

Although this malady is quite too often pronounced incurable, or susceptible of only a very moderate degree of control, the careful study and management of a large number of cases show a cure to be possible in fifty or sixty per cent. even of cases in which sugar in considerable amount is found in the urine. In diabetes there may be either an overproduction of sugar, through excessive activity of the liver, or a lessened

oxidation of this element, the system failing to burn up the sugar circulating in the blood. There are three things to be accomplished: (1) To diminish the supply of sugar; (2) to diminish its production in the body; (3) to increase the oxidation of sugar.

Before beginning the treatment in cases of diabetes, the exact amount of sugar per day is determined, together with the coefficient of nitrogen oxidation and the nitrogen coefficient.

The simple form of diabetes is readily controlled by restriction of the dietary and general increase of oxidation processes by means of vigorous exercise, massage, Swedish movements, cool shower baths followed by brisk rubbing, the Scotch douche, the inhalation of oxygen, and the administration of oxygen by enemata.

In the severe forms of diabetes great care must be taken to determine whether there is increased or diminished oxidation of proteids. The coefficient of nitrogen oxidation is determined by the following method: The total nitrogen of the urine is ascertained by quantitative estimation. By another determination the amount of uric acid and xanthine bases representing the unoxidized nitrogen is ascertained. Dividing the unoxidized nitrogen, and from this subtracting 100, gives the percentage of oxidized nitrogen, or the coefficient of nitrogen oxidation. By subtraction of the unoxidized nitrogen from the total nitrogen, the total nitrogen oxidation is obtained. The comparison of this amount with the normal shows at once whether there is an increased or a diminished oxidation of proteids, and to what extent.

Increased nitrogen oxidation indicates an excessive amount of organic waste, a condition in which cachexia and diabetic coma are likely to develop suddenly, on account of the overtaxed condition of the kidneys. The urine often contains diabetic acid which shows the characteristic red color with chlorid of iron. In this form of the disease the patient must rest in bed. Even massage and other passive movements are avoided, with the exception of careful joint movements and centripetal friction. Warm baths, tepid sponging, and tonic applications of electricity are administered. The diet consists chiefly of kumysogen or buttermilk and well-cooked preparations of nuts.

In diabetes there is generally some marked disturbance of digestion occurring at intervals, with an increase of sugar in the urine. Such cases require inhalation of oxygen, oxygen enemata, cool spray or shower, with friction, massage, static electricity, breathing exercise, and manual Swedish movements. All violent exercise, such as bicycle riding and vigorous gymnastic exercises, must be avoided.

An excessive meat diet is objectionable in all forms of diabetes, and especially so in grave cases. In cases of diminished oxidation of proteids there is special danger, from the fact that the system is not able to relieve itself of the normal tissue poisons, so that the addition of toxic elements (always present in the flesh of dead animals) may be sufficient to precipitate a crisis in an attack of coma. Dujardin-Beaumetz and other eminent French physicians long ago pointed out the fact that an exclusive meat diet is dangerous in diabetes, in consequence of the tendency to coma which results from flooding the system with the ptomains and leucomains which the flesh of dead animals always contains.

By careful management I have frequently seen the sugar reduced from eight or ten ounces in twenty-four hours to only a few grams, within a few days. In cases in which the amount of sugar is not more than one hundred to two hundred grams in twenty-four hours, the sugar may confidently be expected to disappear entirely in two or three months, if the patient's co-operation is thoroughly secured. Restriction to a diet absolutely free from starch is not required, as the system requires a certain amount of carbohydrates. The gluten of wheat, either pure or with the greater portion of the starch removed, is an invaluable food in this disease. But unfortunately most of the gluten flours and other gluten preparations offered in this country are fraudulent in character, containing practically no less starch than is found in ordinary wheat flour. The various preparations of nuts and acid fruits are useful in these cases. I am making some extended experiments with Soja beans as a diabetic food. This bean is a native of China and Japan, contains only eleven per cent. of starch and an equal amount of sugar, with thirty-five per cent. of proteid matter in the form of true albuminoids, and one per cent. of a very digestible fat.

The following cases illustrate what can be accomplished in this disease. —

Case 1.— Mr. A., age thirty five years, first came under my observation some fourteen years ago. At that time he was passing nearly eight ounces of sugar daily, was considerably emaciated and very weak, being wholly incapacitated for business. By careful application of treatment in accordance with the principles above outlined, the sugar almost entirely disappeared, and the patient has since remained in good health by following a careful regimen. He is practically well, being able to attend to his business regularly.

Case 2.— Mrs. C., of Ohio, age fifty-four years. On examination the urine was found to contain over two hundred grains of sugar daily. At the end of four weeks the sugar had entirely disappeared, and the patient returned home in excellent health.

Numerous similar cases might be cited.

EXOPHTHALMIC GOITER.

This disease, formerly so obscure, is now pretty generally conceded to be a disease of the sympathetic nervous system involving the thyroid gland, the disturbance of the heart and the undue prominence of the eyes being simply especially conspicuous features of a malady in which there is a disturbance of the whole body. In the discussion of a paper by the writer, Professor Thompson, one of the leading physicians of New York City, recently expressed at the meeting of the Academy of Medicine his belief that this malady chiefly depends upon the production within the alimentary canal of excessive quantities of ptomaines and toxins. He had found that a milk diet persevered in for some months is almost a specific for this disease. He believed its efficiency to be due to the suppression of vicarious fermentation in the stomach and intestines. The writer's experience agrees fully with this view of the disease, which has almost uniformly yielded to the application of rational measures of treatment.

Case 3.— One of the first cases which I find in my records is that of a young woman aged nineteen years, a resident of Michigan, in whom I observed all the characteristic features of

this disease, the first symptoms having appeared the year previous. Strict attention to intestinal asepsis, with the application of galvanism to the cervical and abdominal sympathetic, hot applications to the spine, tepid baths, and massage, effected a cure in the course of three or four months' treatment. The patient remained well for a number of years, when a relapse occurred, from which, however, she recovered quickly under renewal of the same treatment, and with this exception the patient has remained well for the last twelve years.

Case 2. — Miss R., aged twenty-two years, exhibited all the symptoms of exophthalmic goiter in an advanced stage. The first symptoms of the disease had appeared three years before. The patient had tried climatic change and all the usual remedies, having had the advantage of the best medical advice to be secured in Chicago, but had steadily grown worse. Absolute rest in bed, an aseptic dietary, and the employment of the other measures suggested in connection with the report of the preceding case, resulted in a perfect cure within six months. The patient has since married and has had two children. She has remained in excellent health.

INFECTIOUS JAUNDICE.

This disease is frequently mistaken for gall-stone, a malady which generally requires surgical treatment. The researches of Dujardin-Beaumetz and others have shown this malady to be due to infection of the liver, the result of the extension of catarrhal inflammation of the stomach, or chronic gastritis, first to the duodenum, and then to the biliary passages. The measures of treatment which I have found successful are:—

A strictly aseptic diet and careful suppression of all irritating articles of food, especially condiments, coarse vegetable products, cheese, butter, and in severe cases even fermented breads; lavage of the stomach, administered from one to three times a week in cases of dilatation of the stomach, a condition very common in this disease; fomentations over the stomach two or three times daily; the wet girdle, changed every four hours, worn constantly over the bowels; the Turkish or electric-light bath for elimination, the latter being found especially valuable as a means of relieving intolerable itching; the

wet-sheet pack : the hot enema twice a day, and copious water drinking.

Case 1.—Mrs. —, of Boston, Mass., aged forty-five years. Jaundice had been present for more than two years. Successive attacks had occurred with so great frequency that the skin had at no time presented its natural appearance since the first attack. The urine contained bile in great quantity. Focal matters were clay colored. After application of the measures outlined for four months, this patient was restored to excellent health, and has remained well for the last four years.

Case 2.—Mr. L., of Kenosha, came under my care for treatment eighteen years ago, having at that time been intensely jaundiced for three years. At the end of three months he returned to his home restored to sound health and with his skin of the natural color. He has remained in good health ever since.

Case 3.—Mr. B., a senator from a Western State, fifty-three years of age, was not only intensely jaundiced, but greatly emaciated. His case had been considered one of cancer of the stomach involving the liver. By the aid of a few months' treatment, however, this patient made an excellent recovery. He gained, while under treatment, forty-six pounds in weight, and returned home well, as he still remains.

LOCOMOTOR ATAXIA.

Notwithstanding the various specifics which have been offered for this disease, it is still generally regarded as an incurable malady. Nevertheless, I have seen cases entirely recover under appropriate treatment. I had rational measures of treatment so efficient that as a rule I have no hesitation in encouraging a patient that he may expect a very great degree of improvement, even though he may not become entirely well.

Case 1.—Mr. A., of Rhode Island, aged fifty-seven years. The first symptoms of locomotor ataxia appeared six years previously, beginning at the inside of the left hand, traveling up the arm and down the trunk. Shooting pains, crises, ataxic symptoms, girdling sensation, and impairment of sight gradually appeared. At the time the patient was examined the knee

jerk was absent. The patient could not stand with his eyes shut, could not walk without a cane, had difficulty in passing urine; both primary and secondary pupillary reflexes were absent; the plantar reflex was exaggerated, and also sensibility to heat and cold. The patient remained in the Sanitarium under treatment at the hands of my colleague, Dr. W. H. Riley, for three months. Improvement began almost at once. When he left, he had gained ten pounds in weight, there was a decided improvement in vision, he had discarded his cane, had little difficulty in passing urine, and was in every respect greatly improved.

Case 2.—Mr. A., aged forty-six years, entered the Sanitarium for treatment in 1893. He had first noticed ataxic symptoms the year previous; had shooting pains, crises, girdle sensation, and incontinence of urine; impairment of vision, restriction of the visual field, and other characteristic symptoms being also present at the time of examination. The patella and skin reflexes were absent. The patient found great difficulty in walking even with the aid of a cane. He was under treatment ten weeks, during which time he made very great improvement. The pains, which had been exceedingly troublesome, had practically disappeared, the patient having had but one severe attack after beginning treatment. He was able to walk two miles without weariness, and to sleep soundly; the digestion was improved, and he had made a gain of twelve pounds in weight. The patient continued to improve on returning home. On placing himself under treatment again the following summer, still further improvement was made.

Case 3.—Mr. M., of Illinois, aged forty-three years. In this case, as in the preceding, the patient gave a history of syphilis some years previous; knee-jerk was absent; the patient suffered greatly from ataxic pains and from other characteristic symptoms. He could walk in the dark only with very great difficulty, and could not stand with the eyes closed. At the end of six months this patient returned to his home in good health. When seen twelve years later, his ataxic symptoms had not returned, but the knee-jerk was still absent.

Many other similar cases might be mentioned.

In the treatment of this class of cases, it must be constantly kept in mind that the degenerative process which lies at the foundation of the disease may be the result of the morbid influence of a toxin upon the nutritive processes; hence the patient is subjected to moderate elimination. The electric-light bath is found especially useful in these cases, also the galvanic bath, local and central application of galvanism, static electricity, sinusoidal electrical current, massage, manual and mechanical Swedish movements, revulsive applications to the spine, suspension, fomentations over the region of the abdomen, the wet girdle, and other hydrotherapeutic measures, together with especial care in the regulation of the diet with reference to asepsis and the improvement of the digestion. It is the writer's belief that if all cases could be placed under the proper treatment and regimen at an early period in the disease, the majority of patients might be cured.

CHRONIC RHEUMATISM.

The observation of a very large number of cases of this disease has led me to agree fully with Professor Bouchard in the belief that this disease owes its origin to morbid intestinal fermentations resulting in the production of ptomaines, through the absorption of which the nutritive processes are perverted. Bouchard found dilatation of the stomach in nearly every case of chronic rheumatism examined by him. I have not failed to find stomach dilatation in all cases of this disease which have come under my care within the last six years, since my attention was called to the relation of dilatation of the stomach to this disease.

The general plan of treatment followed is this: These patients being generally poorly nourished and often anæmic, a generous, but aseptic diet is required. Careful attention is given to regulation of the dietary to meet the conditions of the stomach, as determined by a test meal and a careful chemical and bacteriological examination of the stomach fluid.

Associated with dilatation of the stomach, prolapse of the abdominal viscera is frequently observed. These conditions are to be combated by abdominal massage. (For method of abdominal massage, see "Art of Massage," by the writer, Mod

ern Medicine Pub. Co., Battle Creek, Mich.) General massage carefully directed to the joints and surrounding tissues is daily applied. When there is much pain or sensitiveness about the joints, the massage must first be derivative in character. Later vigorous application may be made to the joints themselves, combined with fomentations and heating compresses; and still later, joint movements are employed. Galvanism, the sinuoidal electrical current, and the application of static electricity are of especial service in relieving local pain and swelling. Chronic intestinal catarrh frequently accompanies rheumatic symptoms. This is generally relieved by an aseptic dietary, but sometimes requires, in addition, the daily hot enema, either with or without gallic acid in the proportion of a dram to a quart of water, as a germicide.

Experiments made in Pasteur's laboratory some two or three years ago have shown that the membranous-appearing mass of mucus discharged in these cases is often almost a pure culture of a specific germ.

Fomentations to the abdomen once or twice daily, with the wet girdle, or *umschlag*, at night, and such general tonic measures as the electric or galvanic bath, are used. Short applications of the electric-light bath and tonic baths are also employed. It is a mistake to resort to vigorous elimination in chronic rheumatism. I have frequently received patients who had experienced great damage by hot baths of various sorts at popular mineral spring establishments and similar resorts. It is not an uncommon thing for patients suffering from this disease, and so thoroughly crippled as to be unable to help themselves about, to be so far restored that they can walk about with ease, and engage in the ordinary duties of life; but of course it is not to be expected that in extreme cases the structural bone changes which have occurred, will entirely disappear.

Case 1.—Mrs. H. entered the Sanitarium in September, 1880, being almost completely disabled by rheumatism, which affected nearly all the large joints. She had suffered from the disease from eight to ten years. Acute exacerbations were very frequent. At the end of four months the patient returned home relieved from pain, able to walk long distances without

difficulty, and when seen last year, she was still enjoying excellent health.

Case 2.—Mrs. B., of Missouri, aged forty-seven years. The patient was so completely disabled by rheumatism that she was confined to her bed. Both limbs were flexed, the joints being almost immovable. Her elbow was flexed, the large joints of both arms were also stiffened. The patient had been in this condition for several years. By persevering effort she recovered the use of her limbs sufficiently for walking, and was able to place her hands above her head. She scarcely considered herself longer an invalid, although there still remained some evidences of the disease from which she had formerly suffered.

DYSPEPSIA.

Under this head is included a large variety of functional maladies affecting the stomach, which for centuries have been treated in a more or less routine manner, and unfortunately, to a large extent, are still thus treated. Some cases yield readily to ordinary remedial measures, while others are so refractory to all means that can be brought to bear upon them under the conditions of ordinary medical practise that they are pronounced incurable. I have, however, frequently succeeded in curing cases which had been regarded as malignant disease of the stomach, although of course the fact of recovery showed that malignant disease was not present.

In a careful study of the conditions of the stomach, as shown by examination of the fluid obtained after a test meal in nearly six thousand cases, I have been able to classify the functional disorders of the stomach, as regards the disturbance of the chemical processes of digestion, into twenty-six distinct classes, each of which presents special therapeutic indications. A careful chemical and bacteriological examination of the stomach fluid obtained after a test meal is the only means by which definite and exact indications can be obtained for the treatment of functional disorders of digestion. By the aid of this mode of investigation, a prescription for diet, treatment, and regimen can be made with perhaps greater exactness than in any other class of disorders.

The facts obtained by such an examination, and which are necessary for intelligent treatment of the disorders of digestion are : —

1. The quantity and quality of the gastric juice secreted by the stomach.
2. The quantity and quality of the work done in the digestion of proteids.
3. The activity of salivary digestion in the stomach.
4. The relative rate of absorption of the digested food from the stomach.
5. The presence or absence of abnormal fermentations in the stomach, and the character of the ferments present.

The location and size of the stomach must be determined by physical examination.

I have not space in this paper to undertake an exact description of the technique of the methods employed for ascertaining these important facts named. It is perhaps sufficient to say that we now possess exact methods by which the data referred to can be determined, so that the prescription of dietetic and other measures in cases of indigestion, need no longer be a matter of speculation or empiricism.

The quality of the gastric juice is determined by exact quantitative chemical estimation, as also the activity of the stomach in the digestion of proteids and starch. By these quantitative estimations a mathematical basis for exact coefficients of the work of the stomach is found.

It is possible also to determine with the utmost precision the amount of fluid present in the stomach at a given time, and to determine with accuracy the dimensions of the stomach. This method, which I have elaborated from a suggestion obtained from a French author, consists in introducing into the stomach of a patient while fasting, a small proportion of water acidulated with hydrochloric acid, or containing a small amount of chlorid of soda, iodide of potash, or some other substance, the amount of which can be easily estimated. Then proceed as follows: After one or two minutes withdraw a portion of the contents of the stomach with the stomach-tube. Place this aside. Pour water into the stomach until it is completely filled, taking careful note of the amount of

water passed into the stomach. For this purpose I use two graduated bottles connected by a Y tube with the ordinary stomach-tube, so that the amount of fluid passed into the stomach and removed from it can be readily measured. Then withdraw as much as possible of the stomach contents, placing it in the second glass. By a comparison of the acidity of the portion of the fluid first obtained from the stomach with that of the second portion, the quantity introduced and the quantity first removed, it is easy to determine the volume of the stomach and the amount of fluid in it. The quantities involved and the formulæ to be employed are as follows :—

Let Δ represent the amount of the fluid first removed from the stomach. Let q represent the amount of distilled water introduced into the stomach. Let a represent the acidity of the first quantity removed, and a' the acidity of the second quantity removed. Let x represent the amount of fluid in the stomach at the beginning of the experiment, and y the volume of the stomach. Then the following formulæ will give the results desired :—

$\frac{a'q}{a-a'} + \Delta =$ the fluid remaining in the stomach at a given time.

$\frac{a'q}{a-a'} + q = y$, the capacity of the stomach.

In extensive studies upon dogs and human beings by means of experimental test meals, and especially in the study of salivary digestion, I have observed many facts of practical importance in the treatment of disorders of digestion, and have been able to confirm the observations of Roberts, Mosso, Chittenden, and others. A few of these facts which I have found of the most practical use may be stated as follows :—

1. The activity of salivary digestion in the stomach depends (1) upon the thorough cooking of foods; (2) upon the thorough mastication of food substances; (3) upon the dryness of the food substances whereby the salivary secretion is stimulated; (4) upon the degree of acidity of the stomach contents and the rapidity with which the stomach contents become acid after the beginning of a meal. In hypopepsia the salivary coefficient is low, in hyperpepsia it is high.

2. When proteid digestion in the stomach is deficient in quantity or quality, it is not because of a deficiency of pepsin or other organic ferments, but because of the absence or deficiency of free hydrochloric acid; it is because of a **deficiency of the formation of hydrochloric acid.**

3. In many cases in which there is no quantitative defect in proteid digestion there is a formation, in considerable quantity, of toxic proteid substances resembling the products of normal digestion chemically, but of no nutritive value.

4. Free acids, with the exception of the weak acids of edible fruits, when taken into the stomach, increase the functional disturbance in hyperpepsia, and do not lessen the disorder in hypopepsia or apepsia. Oxalic acid is particularly injurious in this respect.

5. Microbes are not present in the normal digestion of sterile food substances, and cannot be regarded as useful in the digestive process.

6. Tea and coffee interfere with the digestion of both starches and proteids.

7. Alcohol in all forms interferes with the digestion of proteids.

8. Mustard, pepper, pepper-sauce, and other so-called condiments do not increase the activity of proteid digestion nor the **secretion of normal gastric juice.**

9. An aseptic condition of the stomach may exist without the presence of free hydrochloric acid, although microbes are usually much more abundant in the stomach in hypopepsia and apepsia **than in hyperpepsia.**

The following cases illustrate what can be done in the treatment of the disorders of digestion by the employment of rational measures based upon a thoroughgoing scientific investigation of the morbid conditions present:—

Case 1.—The patient, a lady of twenty-eight years, had for years suffered from chronic indigestion and resulting malnutrition. Shortly before coming under my observation she had been under the care of a leading Philadelphia specialist for several months, during which time she had grown steadily worse, until she had become greatly emaciated. Though of good height and naturally large figure, her weight was reduced to

seventy one pounds. In three months the patient gained forty-one pounds in weight. There was a marked improvement in respect to the hypopepsia from which she suffered, together with other serious symptoms which were dependent upon the condition of the stomach.

Case 2.—The patient, a lady of twenty-six years, from Illinois, had been a confirmed invalid for three years, during most of which time she had been bedridden, and had been growing worse for several months. By advice of her physician she had been living wholly on malted milk. The patient was in such a wretched condition when she arrived that it was evidently necessary to cleanse the stomach by lavage, by which a great amount of putrescent matter was removed. A dry diet consisting of granose, a twice-cooked preparation of wheat in the form of dry flakes, and bromose, a preparation of thoroughly cooked and malted nuts, secured improvement within a week, at the end of which time she began to gain flesh, and in two weeks gained exactly fourteen pounds. The improvement was so great that she was able to walk several miles a day. This case was of course somewhat unusual in the rapidity with which improvement occurred.

Case 3.—The patient, a professional man, aged about forty years, had suffered from indigestion for many years, until he was reduced almost to a skeleton, and was unable to attend to his business. Examination showed hypertesthesia of the lumbar ganglia of the sympathetic and the solar plexus, anemia, dilatation of the stomach, and great intolerance of fat in any form. The following table shows the improvement which occurred as the result of four months' treatment:—

	<i>Normal Quantities.</i>	<i>1.</i>	<i>2.</i>
Total acidity.....	180-200 gms.	.214	.184
Calculated acidity.....	180-200 gms.	.200	.182
Total chlorin.....	300-320 gms.	.414	.306
Free HCl.....	0.2-0.60 gms.	.054	.030
Combined chlorin.....	125-150 gms.	.246	.112
Fixed chlorids.....	100-110 gms.	.114	.184
Coefficient of albumin digestion.....	1.00	.70	1.000
Coefficient of starch.....	1.00	.67	.900
Coefficient of salivary activity.....	1.00	2.00	.500
Fermentation.....	0.000	6.00	3.000
Chlorin liberation.....		1.10	.750

I have in a number of cases seen a normal condition secured by a few months' treatment in cases in which hyperpepsia was present in an extreme degree, the total acidity reaching over three hundred milligrams per one hundred cubic centimeters of stomach fluid.

Case 4.—The patient, a young woman, had suffered for a number of years with migraine. The physical examination showed the stomach to be dilated to a marked degree. The chemical examination showed marked hypopepsia, and the bacteriological examination gave 1,912,000 microbes to each c.c. of stomach fluid. At the end of three months the headaches had disappeared, there was a marked gain in health and strength, and the germs had disappeared, the stomach fluid being sterile.

Case 5.—Mrs. G., aged sixty years, suffering from apepsia. The chemical examination showed complete apepsia, and the bacteriological examination gave over 200,000 microbes per c.c. In four weeks the number of microbes was reduced to 4000 per c.c.

A large number of similar cases might be cited.

PROGRESSIVE EMACIATION.

Cases are frequently encountered in which loss of flesh is the principal symptom for which medical relief is sought. Not infrequently the patient is unaware of any digestive or other functional disorder, but a searching investigation always shows some vice of nutrition, the headquarters of which is more frequently in the stomach than elsewhere. I present a few illustrations of what can be done in cases of this sort.

Case 1.—The patient was a young man, aged twenty-four, who had steadily lost flesh for several years. The loss of flesh slowly continued for a few weeks after the patient was placed under treatment, but he finally began to gain, and a few months later had nearly doubled his weight, having gained eighty-five pounds.

Case 2.—Mr. W., aged thirty years, a resident of Michigan, a teacher, had, by chronic invalidism, been reduced almost to a skeleton. He was too weak to stand alone, and had, in fact, been confined to his bed almost wholly for four months. After

two weeks' treatment he began to improve, and gained steadily for six weeks at the rate of one half pound daily. At the end of this time he considered himself well enough to return home.

Case 3—Miss L., a young woman twenty-two years old, a resident of Michigan, had for a number of years been running down, and had finally become so much reduced that her weight was only sixty-three pounds. After a few weeks' treatment the patient began to gain, and continued to make steady progress in strength and weight until she tipped the scales at one hundred and eighteen pounds.

Numerous similar cases might be cited, as, for example, that of a gentleman who gained eight pounds in ten days; a young lady who gained thirty pounds in three months; another young woman who gained forty-six pounds in six months; and another who gained forty-two pounds in four months.

The general plan of treatment pursued in extreme cases of this sort is to give the patient absolute rest in bed, with moderate application of massage daily, hydrotherapy, passive exercises, such as Swedish movements, and other rational measures of treatment. The diet must be of such a character as to furnish the largest amount of nutrition with the least work on the part of the stomach, and should also contain a due proportion of fat-making elements. An abundance of cream, rich milk, well cooked grains and fruits, constitute an ideal fat- and blood-making dietary for those who are able to digest milk. In some cases, however, milk must be interdicted. Nuts are to be commended. Nutrose, a thoroughly cooked preparation of nuts, and bromine are perhaps the most fattening of all foods. They are at the same time very easily assimilated, as the fat is presented in a thoroughly emulsified state, ready for absorption.

INSOMNIA.

Inability to sleep is most commonly the result of some disorder of the stomach whereby the sympathetic nervous system, and through it the general nervous system, is disturbed. These cases are commonly regarded as suffering from some disorder of the nervous system, whereas the real trouble is in

the stomach. The tongue is invariably covered with a dense, brown coat, the bowels are inactive, and a bacteriological examination of the stomach shows the presence of a great number of poison-forming germs. The thorough cleansing of the stomach by lavage, a correct dietary, and the employment of appropriate measures of treatment, rarely fail to secure a prompt disappearance of the leading symptoms. Sometimes recovery is very prompt; in other cases several weeks elapse before the best results are seen.

Case 1.—The patient, a man upwards of sixty years of age, had for several years suffered from insomnia, until his case had come to be regarded as a practically hopeless one. By the aid of the measures suggested, however, the patient made an excellent recovery in the course of a few months. Ten years later he was still enjoying comfortable health.

Case 2.—Mrs. B. had suffered from insomnia for a number of years, until her case had come to be regarded as an exceedingly intractable one. The patient was greatly depressed, and had become incapable of attending to even the most simple household duties because of the extreme degree of mental confusion and oppression existing. Four or five months of treatment restored the patient to sound health, and she still remains well.

Case 3.—The patient, a gentleman aged forty-five, had slept so little during the year previous to his coming under the writer's observation that he declared he had practically not slept at all, he being frequently unable to obtain more than half an hour's sleep for several nights in succession. He had become exceedingly depressed, unhappy, and hopeless. By careful adjustment of the dietary and various appropriate applications of water, electricity, Swedish movements, etc., the patient soon began to improve, and in three months was enjoying excellent health, and able to sleep soundly six or eight hours at night. Great gain in flesh, increase of appetite, gradual disappearance of depression and other symptoms from which the patient suffered, marked the return to normal conditions.

Case 4.—Mr. M., aged sixty-five years, had suffered to such an extent from insomnia and mental depression for three

years that he had finally come to be regarded as an utterly hopeless case; and after spending some time in an insane asylum without beneficial results, his case had been pronounced one of paresis, and his friends were informed that recovery was utterly impossible; although the patient might live for a number of years, there would be no improvement in his mental condition. Nevertheless, at the end of six months this patient was in the enjoyment of excellent health and the best of spirits, was sleeping well, and had an excellent appetite. The tongue was clean, the digestion good, the bowels regular. Twelve years later, although advanced in years, he was still enjoying comfortable health, and had suffered no return of insomnia.

In numerous cases patients suffering from insomnia and depression, as the result of disorders of digestion and nutrition, are committed to an insane asylum as hopelessly incurable cases, and perhaps do ultimately become incurable, who might, by timely and judicious application of rational means of treatment, have been restored to health and usefulness.

CHLOROSIS.

Within the last few years much light has been thrown upon the nature of this disease. By the investigations of Mehnert and others, it has been clearly shown to be a disorder of nutrition, and probably dependent upon the development of toxic substances within the body, whereby the blood-making processes are seriously interfered with, the whole body thereby suffering through the derangement of almost every function and the development of various morbid conditions. Mehnert has shown that dilatation of the stomach and prolapse of the stomach and bowels are conditions universally present in chlorosis. My own studies of this disease have confirmed these observations. In the opinion of the writer, this disease must be regarded as a true toxemia. Restoration of the prolapsed viscera to position by skilful application of abdominal massage, tonic baths, Swedish movements, gymnastics, a dietary adapted to the production of fat and blood, and so far as possible the correction of morbid mental and moral conditions, have, in the writer's experience, invariably resulted in a rapid return of the patient to a normal condition.

A young woman residing in Chicago, aged twenty years, had for more than two years suffered from the characteristic symptoms of chlorosis, which had become more and more pronounced. The patient was in a most wretched condition. She had no appetite, and was extremely weak, thin in flesh, and anemic. The hemoglobin was barely half the normal amount, and the blood count was 3,500,000. At the end of six months' treatment the patient had gained over thirty pounds in flesh; the hemoglobin and blood count were normal; there had been a proportionate gain in strength; and the patient returned to her friends in the enjoyment of excellent health, in which improved condition she remains after the lapse of two years.

HYSTERIA.

This disease, quite too frequently regarded as a mental perversity, is almost invariably found to be connected with a hyperesthesia of one or more of the viscera of the trunk. The popular idea that hysteria is almost invariably connected with disease of the ovaries is an erroneous one, disorders of the stomach, liver, and other viscera being quite as frequently the seat of disturbance as disease of the ovaries. The disease is certainly closely associated with some morbid condition of the sympathetic nervous system, and success in its treatment is to be found in the recognition of this fact, and in ferreting out the source of the sympathetic nerve disturbance. A large number of cases might be cited as illustrative of the excellent results to be obtained from the judicious employment of careful regimen, exercise, baths, and electrotherapy in this class of cases. Two or three typical cases will suffice.

Case 1.—The patient, a young woman, aged twenty-five, a resident of Iowa, presented a most pitiable object. She was nervous to an extreme degree, emaciated, sallow, extremely anemic, and so weak as to be scarcely able to sit in an erect position when placed in a chair. Vomiting occurred after each meal. This symptom was so pronounced and persistent that the patient declared she had not kept a mouthful of food upon her stomach for three years. Violent hysterical convulsions occurred at frequent intervals, the patient sometimes remaining in a perfectly rigid state without the slightest move-

ment for many hours at a time. By a judicious application of the methods suggested, this patient was restored to such excellent health that she became able to engage in the ordinary duties of a housewife, and was entirely free from the distressing symptoms from which she had suffered for nearly ten years.

Case 2.—The patient, a young woman twenty-six years old, had been confined to her bed most of the time suffering from what was supposed to be disease of the spine and a great variety of nervous symptoms. The spine was found to be extremely sensitive its entire length. The lumbar ganglia and the solar plexus were sensitive to a high degree. The patient had dilatation of the stomach and prolapse of the bowels, and the right kidney was movable. The pelvic organs presented no evidence of serious disease. This patient had been treated for years for inflammation of the spinal cord, spinal irritation, spinal anemia, and various other morbid conditions of which the spinal cord had been supposed to be the seat by the physician under whose care she had been. When encouraged to take exercise, the patient complained of aggravation of the symptoms, and gradually became helpless, until she rarely stood upon her feet, going about in a wheelchair whenever she could be induced to venture away from her bed. The patient was by a few months' treatment restored to good health, and became able to take long walks and enjoy them, acquired a good appetite, gained rapidly in flesh and strength, and was almost wholly relieved of the spinal irritability from which she had so long been a constant sufferer. The greatest relief seemed to be afforded in this case by the application of an abdominal supporter, whereby the viscera of the abdomen were held in place, and the abdominal sympathetic nerve thus relieved from abnormal strain, a frequent source of spinal pain and irritation.

Case 3.—The patient, Miss S., a resident of Chicago, had been for three years confined to her bed almost incessantly. Several months of this time she had spent in an excellent hospital, but without apparent benefit. On examination, I found the patient suffering from dilatation of the stomach, prolapse of the bowels, rectal irritation, prolapse of the uterus and ovaries, extreme nervous irritability, emaciation, exhaus-

tion, depression, and indisposition to effort of any sort. She was hysterical to quite a degree, and held her friends under such complete subjection that it was necessary to isolate her from them. In this case the young woman's trouble had been wholly attributed to the diseased condition of the ovaries, and it had been supposed necessary to have the organs removed. In this case, however, as in scores of similar ones, the application of appropriate measures of treatment demonstrated the needlessness of a surgical procedure, as the patient was restored to such excellent health that within a year she was able to take up work as a teacher in a public school, a position which she has now held continuously for a number of years.

MIGRAINE.

This disease, which has proved so refractory to medicinal remedies of all sorts, yields in a most gratifying manner to the persevering application of appropriate measures of treatment. In another paper the writer has undertaken to show that this disease is due to a disturbance of the great sympathetic nerve. This disturbance may be the result of traction upon the abdominal ganglia or solar plexus by prolapsed bowels, a prolapsed stomach, or a movable or floating kidney; or it may arise from the development of toxic substances in a dilated stomach or retained fecal matters in a dilated colon. Whatever the source of the irritation may be, I have always found an extremely sensitive condition of the abdominal sympathetic ganglia associated with this disease, and in a great number of cases have seen the headaches disappear in conjunction with the disappearance of the hyperesthetic condition of the sympathetic. Any one who will take the pains to examine carefully the condition of the abdominal sympathetic by pressure upon the abdominal ganglia, which lies against the spine, and may be readily reached by deep pressure applied at a point two inches on either side of the umbilicus, will be able to verify the statement made with reference to the constant association of an irritable condition of this nerve with the condition variously known as migraine, nervous headache, and sick-headache.

Case I.—Mr. A., aged forty-eight, had for several years suffered from migraine, the attacks sometimes being so severe

that his life was despaired of, and occurring so frequently that the patient was reduced to an extremely wretched condition, being greatly emaciated and a constant sufferer. By advice of his physician he had subsisted almost wholly upon a meat diet for several years, but his symptoms had grown worse rather than better. Under a rational dietary and appropriate treatment, consisting of lavage of the stomach, general massage, applications of electricity and tonic baths, the patient was very soon relieved from his headaches, and made rapid improvement in other particulars. In this case it was found necessary to confine the patient to an almost exclusive diet of kumyzeon for several weeks.

Case 2.—Mrs. H., aged forty-four years, had for several years suffered from very severe attacks of migraine, which were also accompanied by rheumatic symptoms, general weakness, and an abnormal increase of flesh. Thorough application of rational measures resulted in the complete cure of this case in the course of a few weeks.

Case 3.—Mrs. E., aged thirty-nine, had suffered for twelve years from severe attacks of migraine; she was entirely cured of the headaches after seven weeks' treatment.

Case 4.—Mrs. B., aged thirty-five years, had suffered from migraine for several years, until she had become greatly reduced in strength and general health. Examination of the stomach fluid showed her to be suffering from hyperpepsia to a very extreme degree. There was dilatation of the stomach and general prolapse of the abdominal viscera. The application of careful treatment effected a radical cure.

TIC DOULOUREUX.

In the writer's opinion, this disorder is closely allied to migraine, though differing from it in a very characteristic way. The same morbid conditions have been found present in every case of this disease which has come under my observation, as have just been noticed in relation to migraine. In five typical cases which I have had under observation at the Sanitarium, dilatation of the stomach has been found present in all, and in all cases the tongue has been thickly coated and slimy, and the breath foul. The measures of treatment adopted have been

the same as those employed in migraine; viz., an aseptic dietary, the application of galvanism, the sinusoidal current, fomentations, the wet girdle, and the abdominal supporter as a means of relieving irritation of abdominal sympathetic, massage, Swedish movements, tonic baths carefully administered, and abundance of out-of-door exercise. The dietetic and other treatments for migraine and also for this disease the writer has fully described in a paper entitled "Migraine: Its Cause and Radical Cure." Local applications of galvanism are made to the affected region and to the cervix and abdominal sympathetic. Hot and hot-and-cold applications to the spine, and fomentations over the affected part are also of some service, although the amount of relief obtained by local applications during an attack is not so great as might be expected. In some cases I have found it necessary to make an application of chloroform to each of the sensitive points from which the sudden darting pain seems to radiate. In some instances there is but one such point, while in others, several are found. Chloroform is administered by means of a hypodermic syringe, five to fifteen drops being injected into each point. This injection is sometimes followed by neuritis and a temporary paralysis, from which, however, recovery occurs after a few weeks. I have succeeded in curing this disease in every case in which the patient has remained under treatment for a suitable length of time.

Case 1.—Mrs. T. F. H., aged twenty-eight, had suffered for three years from attacks of tic douloureux, which had become more and more severe until for about a year she had been an almost constant sufferer. The upper lip was swollen to such a degree that she could not use a spoon in eating, and the jaws could not be opened more than a quarter of an inch in consequence of the constant muscular spasm. By application of the measures noted, this patient was in three months entirely cured, and has remained well for more than fifteen years.

Case 2.—Mrs. H., of Indiana, first came under my care for the relief of migraine with which she had suffered for twelve years. She had had the benefit of the most distinguished medical counsel, but without relief, and had been informed that she could not expect a cure. She was confined to her bed, and was

an almost constant sufferer from the disease. Thorough application of the measures of treatment above outlined resulted, however, in a perfect cure in the course of six months. A year or two later the patient, while staying for a week at a mineral spring resort, taking frequent hot baths, and disregarding the dietetic rules laid down for her, experienced a severe attack of tic douloureux. From this time the attacks recurred regularly once or twice a week for several weeks, and she returned to the Sanitarium for treatment. The application of the same measures previously employed for migraine resulted in a permanent cure of the tic douloureux, and the patient has remained well to the present time, now some seven years.

Case 3.—Mrs. A., aged forty-three years, suffered from tic douloureux for five or six years. Several serious operations were performed for the excision of the affected nerve, but without benefit. After several months' treatment, which included two or three injections of chloroform at the painful points, the patient was entirely relieved of the disease, and has now remained cured for three years. When last seen, she had gained twenty pounds in flesh, and was enjoying excellent health.

Case 4.—Mr. C. had suffered from most excruciating attacks of tic douloureux for twenty years. During this time these attacks had occurred many times daily, with the exception of an interval of two or three weeks some years previous. After three months' treatment this patient was so greatly relieved that he expressed himself as practically well, and returned to his home. There was still some tenderness of the tissues of the affected region, but he was relieved entirely of convulsive attacks, and after returning home reported that improvement was still continuing.

EPILEPSY.

I have long been convinced that idiopathic epilepsy, at least the convulsive variety of this disease, are more or less directly due to the development within the system of abnormal toxic substances or morbid toxin poisons in abnormal quantities. This belief has led me to give special attention to diet and eliminative treatment in the management of this

class of cases. More than twenty years ago I was convinced of the importance of a strict dietary regimen in these cases, and especially of the necessity of prohibiting the use of such articles as meat, cheese, shell-fish, and other substances which readily undergo decomposition in the stomach and intestines. In the discussion of a paper which I recently presented before the New York Academy of Medicine on the bacteriology of the stomach, Dr. Roberts, a practitioner of large experience, remarked that he had succeeded in curing a number of cases of epilepsy by the exclusion of flesh food from the dietary, and by the application of hygienic measures, vigorous muscular exercise, free water-drinking, daily baths, especially moderately warm baths. The galvanic bath and the electric-light bath I have found particularly serviceable in these cases.

Case 1.—Mr. S., a young man aged twenty, suffered for three years from epilepsy, the result, he believed, of a partial sunstroke while he was working in the harvest-field. The patient was put upon an aseptic dietary and a course of treatment indicated, with the result that in a few months he was entirely relieved of the epileptic seizures, and he has now remained well for nearly twenty years.

Case 2.—Miss M., a young lady aged twenty, had suffered from epileptic attacks for five or six years. By the advice of two leading specialists the ovaries had been removed, although there was no indication of disease in these organs other than the fact that the attacks were most likely to occur at the menstrual periods. The patient was no better, however. Every two or three weeks she suffered from a rapid succession of seizures, often remaining in this state for two or three days, an attack occurring as soon as she fell asleep, as the result of any slight noise or other disturbance. I determined the urotoxic coefficient just at the close of one of these attacks by injection of the urine into the veins of a rabbit. The result showed that the urine possessed more than double the normal amount of toxicity. The effect of injection was to produce a characteristic epileptic attack in the rabbit at the close of which the animal died one-half minute from the beginning of the injection. The adoption of a strict aseptic regimen and vigorous eliminative measures, including copious water-drink-

ing, resulted in a great amelioration of the symptoms in this case.

Now that the fad of operating for epilepsy has disappeared, medical measures whereby the disease may be controlled and its inconveniences mitigated, are likely to receive more careful and considerate attention than has been the case for forty years past.

NERVOUS ASTHMA.

In so called nervous asthma the patient is unquestionably suffering from a toxic condition which manifests itself chiefly through the symptoms characterizing this disease. The physical examination has, in my experience, shown dilatation of the stomach or prolapse of the stomach and bowels to exist in each case, and to be a constant condition in this disease. Lavage of the stomach, an aseptic dietary, the use of intestinal antiseptics, and the application of measures to build up the general health and relieve the irritation of the abdominal sympathetic nerve, which always exists in these cases, have in my hands proved uniformly successful in relieving this very distressing condition.

Case 1.—Miss L., of Michigan, a young woman twenty years of age, had suffered several years from asthma. On examination, I found prolapse of the stomach and bowels, and extreme hyperesthesia of the lumbar ganglia of the abdominal sympathetic. Pressure upon these ganglia and upon the pneumogastric was sufficient to provoke an attack of asthmatic breathing at any time. The application of the measures above outlined resulted in a cure in a few months.

Case 2.—Mrs. D., of Michigan, a lady aged forty, had suffered for many years from asthma, which she supposed to be due to disease of the lungs. On examination the patient was found to have extreme dilatation of the stomach, prolapse of the stomach and bowels, and movable right kidney. There was a high degree of irritability of the lumbar ganglia. The case was entirely cured by the adoption of an aseptic dietary, the employment of suitable hydrotherapeutic measures, and the application of an abdominal supporter. She has not been troubled with asthma for eight or ten years.

SUPPOSED PELVIC DISEASE IN WOMEN.

A careful study of the cases of more than ten thousand women supposed to be suffering from diseases peculiar to their sex, has convinced me that in a very large proportion of cases the suffering is not due to pelvic disease or displacement of the pelvic organs, as is generally supposed, but to a disturbance of the sympathetic nerve, resulting from prolapse of the stomach or bowels, a movable or floating kidney, or dilatation of the stomach. In a paper entitled, "The Value of Exercise as a Therapeutic Means of Treatment of Pelvic Diseases of Women," which I presented before the American Association of Obstetricians and Gynecologists, I reported a considerable list of cases in which patients suffering from various forms of supposed pelvic disease were cured without surgical measures, and with very little local treatment, by the application of measures for the improvement of the general health and the correction of the general visceral prolapse, the existence of which in connection with these cases I have pointed out in the paper referred to and in various subsequent papers.

I think I have clearly established, by an extended series of observations, that displacement of the pelvic viscera is almost invariably accompanied by displacement of the bowels and other abdominal viscera, and that the displacement of the abdominal viscera precedes the dislocation of the pelvic organs, and is by far the greatest factor in the production of numerous symptoms which women often describe under the general term of "weakness," such as backache, a dragging sensation across the abdomen, pain in the side, etc.

In many cases in which a cure of pelvic diseases is supposed to be due to operations for the repair of a slight tear in the perineum or the cervix, the benefit which the patient is supposed to derive from the operation is really due to the three or four weeks spent in bed in a horizontal position, whereby the dislocated abdominal viscera have an opportunity to return to their normal places, the restrictions of dress being removed, and the position such that gravity does not act adversely. The return of the prolapsed organs to their normal places relieves

the strain upon the abdominal sympathetic, and thus alleviates the various symptoms from which the patient suffers.

In not a few of these cases the application of a properly adapted abdominal supporter is of far greater importance than a surgical operation or any sort of local treatment. Indeed, the various local congestions, catarrhs, etc., to which the pelvic organs are subject, are largely due to the displacement resulting from the overweighting of these organs by the prolapsed viscera of the abdominal cavity.

In another paper I have undertaken to deal with this question more at length, and to show the futility of many of the procedures which are commonly employed in the treatment of this class of disorders. I might cite hundreds of illustrative cases, but will omit doing so, as I have already presented many such cases in connection with other papers, particularly a paper presented before the International Periodical Congress of Gynecology and Obstetrics, entitled, "The Relation of Static Disturbances of the Abdominal Viscera to Displacements of the Pelvic Organs."

OBESITY.

There is certainly no class of disorders in which the application of pure medicinal agencies is more clearly futile than in the treatment of obesity. In this disease, as has been clearly shown by Oertel and other European investigators, diet, regimen, and the application of physiological remedies, are the only means which can be relied upon for tangible and permanent results. In treating this class of patients, I first restrict the diet, both in quantity and in kind. In some instances I allow the patient to eat almost anything he chooses, provided he eats but one thing. I have secured excellent results by placing the patient upon an exclusive diet of grapes, apples, or some other fruit. A diet of kumquats, buttermilk, granose, zwischack, gluten biscuits, but one article being taken at a time, has also proved efficient. When a patient takes but one article, he soon tires of it, so he is quite certain not to take too much. If bread is permitted, it must be eaten dry only. It is best taken in the form of zwischack or gluten biscuit. The patient is not allowed to take fluids at meal time, but he may drink at other times as much as he likes.

Next to diet, exercise is the most important matter. The patient should exercise to the extent of decided weariness two or three times a day. Before breakfast, or rather, before eating, is the best time for exercise. Walking is, as a rule, not sufficiently vigorous work to reduce the flesh appreciably unless the patient has an opportunity to climb hills. Cold baths, electric-light baths, Turkish baths, and other eliminative measures used in moderation are useful, but care must be taken in the use of hot baths, or injury will be done. Hot baths should always be followed by a cool spray or shower, and for many persons the cold shower or spray is to be preferred. It is an excellent tonic, and stimulates the oxidation processes.

Case 1.—Mr. S., a lawyer residing in South Carolina, had for several years weighed over three hundred pounds. He recently found himself rapidly gaining in flesh, and at the time he came to the Sanitarium his weight was three hundred and fifty pounds. A few weeks sufficed to reduce his weight more than one hundred pounds.

Case 2.—Mrs. M., a lady forty-five years of age, had for some reason been steadily gaining in flesh until she had become, as she said, “prodigious.” Though short in stature, she weighed over two hundred and twenty-five pounds. A thorough course of treatment resulted in steady loss of flesh until the patient’s weight dropped below one hundred and seventy-five pounds, when she found herself very comfortable, and suspended treatment.

It is not wise to carry the reduction of flesh to the original weight, as the system accommodates itself to the increase of flesh, and injury might be done either by the too rapid removal of an excess of flesh or by an excessive reduction in flesh. A very fleshy person should never undertake to reduce the flesh to within less than twenty-five or thirty pounds of the original weight. When this plan is adopted, the patient’s general health improves instead of diminishes, as it does in cases placed under starvation methods and many other of the various special methods adopted for the reduction of flesh. The results are permanent, provided the patient will carefully follow the modified regimen laid out for him at the end of the course of treatment,

CONSUMPTION.

Notwithstanding the great number of specifics which have been brought forward for the cure of this disease, including serum treatment of various forms, pulmonary tuberculosis still claims about one seventh of all the victims of disease in civilized countries, a fact which must be regarded as a reproach to modern sanitary science, considering the length of time which has elapsed since the contagiousness of the disease was fully established. That ordinary medical means accomplish little or nothing in the cure of this disease is a fact too well known to need mention. Tubercular disease of the skin, of the bones, and of other parts readily accessible to surgical and other remedial measures, is not easily cured; and when the seat of the malady is in a part so inaccessible as the structures of the lungs, the difficulty of dealing with it becomes still greater.

Numerous acute observers have called attention to the fact that consumption really does not arise in the lungs, but finds its foundation in a lowered condition of the body, which thus becomes a prey to the parasitical microbes to which the name of Koch is attached.

Impaired digestion, resulting in impoverishment of the blood, defilement of the tissues by an excessive production of ptomaines and other toxic substances in the alimentary canal, is undoubtedly the starting-point of pulmonary consumption in a large proportion of cases. Sedentary habits, with resulting stagnation and deficient lung exercise, are other important means whereby the bodily resistance is lowered and tubercular disease of the lungs invited. Careful adjustment of the dietary to the condition of the stomach and the needs of the body, carefully regulated systematic exercise, massage, Swedish gymnastics, manual Swedish movements, gymnastics with or without the aid of special apparatus, the judicious employment of hydrotherapy, proper application of electricity,—these must be regarded as the most efficient measures in dealing with this disease; but even these measures do not always succeed except under the most favorable conditions.

I have, however, seen so many cases of recovery from this dread malady by the employment at the Battle Creek Sanitarium of the measures named that I determined several years ago to secure, if possible, the same advantages for patients in a dry and elevated region. Within the last two years the establishment of a well-equipped sanitarium, under the same auspices, at Boulder, Colo., has afforded opportunity for observing the progress of patients under rational treatment at an elevation of between five and six thousand feet. The large number of recoveries which have occurred, and the astonishing rapidity with which they have taken place in many cases, has convinced me that by a combination of thoroughly rational and physiological treatment with climatic advantages, a cure may be secured in seventy-five or eighty per cent. of all cases of consumption when treatment can be begun in the early stages of the disease; and in perhaps forty or fifty per cent. recovery may be expected in cases in which the disease has attained to the second stage before treatment is begun. Recovery may be expected in a small proportion of cases even when the disease has made still greater advancement.

Case I.—Rev. G. T. This patient came under my care in the autumn of 1866. I found a cavity as large as a large hen's egg in the left apex. The patient was expectorating freely; portions of the yellow elastic tissue and great quantities of pus were constantly present in the sputa. He had an even temperature of 103° , pulse was ninety to one hundred, breath exceedingly short. The patient was greatly emaciated, and scarcely able to walk. I pronounced the case a hopeless one, and advised the patient to return home, but he refused to do so, and insisted upon receiving treatment. He showed so much pluck and determination that I thought I ought to give him a chance. The result was that in four months the patient returned home with a normal temperature, only a slight cough, very little expectoration, and pulse sixty. He was able to walk several miles, and to resume his profession as a clergyman. After a few months more spent under my care, by my advice he went to Colorado to reside. For several years I heard from him frequently, and he always represented himself as enjoying good health. He may not now be

living, but I am certain that he enjoyed a good many added years of comfortable life as the result of rational treatment.

Case 2.—Rev. J., another clergyman, aged forty years, showed the first symptoms of tuberculosis four years ago. I urgently advised him to place himself under treatment, but he declined to do so. The disease progressed for a year and a half, when several hemorrhages, great emaciation and loss of strength, high temperature, and a harassing cough compelled him to seek advice. After a few weeks' rest and treatment I sent him to Boulder, Colo., to our branch sanitarium there, where he was able to secure the advantages of rational and physiological treatment as above outlined, with the result that in six months he was restored to good health. He has since resided in Guadalajara, Mexico, where he is acting as business manager of a sanitarium devoted especially to the treatment of this class of maladies.

Case 3.—Mrs. B., case of pulmonary and laryngeal tuberculosis. The patient's age was thirty-two years. The physical examination showed extensive tubercular deposit at the upper part of the left lung. There were moist râles. The patient had entirely lost her voice, and could only whisper; was greatly reduced in flesh and strength, and confined to her bed most of the time. After a few weeks' treatment I sent this patient to the Colorado Sanitarium at Boulder, where, after one or two relapses, her health seemed to become established upon a firm basis. She has since returned to her home in Kentucky, and continues in good health.

A considerable number of similar cases might be reported, showing the benefit to be derived from rational treatment combined with climatic advantages.

BEDRIDDEN NEURASTHENICS

Neurasthenia, though commonly treated as a disease, is, in the opinion of the writer, merely an assemblage of symptoms which have sometimes one, sometimes another, morbid condition for their foundation. For the most part the symptoms of neurasthenia may be directly traced to disturbances of the sympathetic nervous system. The most prominent causes of these disturbances are:—

. The contact of stimulating, irritating substances generated in the stomach and intestines with the sympathetic nerve fibers found in the mucous membrane lining these organs, and to reflex disturbances arising from this source of irritation.

2. Circulation of similar poisons in the blood and tissues, whereby they reach the sympathetic nerve-centers.

3. Irritation of the sympathetic nerve-centers, particularly the solar plexus and the lumbar ganglia, by a traction of the prolapsed stomach, prolapsed bowels, prolapsed liver or spleen, and floating kidney or depressed pelvic organs.

In the treatment of neurasthenia it is necessary to look carefully both for the cause of the nerve disturbance and to its removal. Hundreds of nervous women are annually subjected to operations for repair of minute injuries of the cervix or perineum without the slightest relief, when a thorough course of massage, with careful replacement of the viscera by a skilled manipulator, together with proper regulation of diet, exercise, and suitable baths, are able to effect a rapid cure. I have had under my care some scores of such cases within the last twenty years, and might easily fill a good-sized volume with the records of successes in cases which had previously resisted the ordinary measures of treatment, including various operative procedures.

Case 1.—Miss M., of Michigan, had been bedridden for six or seven years, and had been long regarded as an incurable case. The patient was emaciated to an extreme degree, and suffered with a long category of neurasthenic symptoms, which need not be here recounted. At the end of three months the patient had gained thirty-seven pounds in flesh, and had made a proportional gain in strength and general vigor. The neurasthenic symptoms had wholly disappeared, and she was practically well, requiring only some further gymnastic training and tonic baths for a few weeks to restore her to excellent health.

Case 2.—Mrs. B., aged thirty-eight, a cultured lady of highly nervous temperament, through the strain of life in a large city and numerous family cares, had become reduced to a state of nervous wretchedness such as I have seldom seen. In this case, the nervous irritability was so great that the patient would frequently fall unconscious as the result of a

sudden noise or unusual sight. The patient complained of disturbance of the perception of color, everything about her frequently appearing green, yellow, or red. Occasionally she was attacked by total blindness for the period of half a minute or more. On examination, the patient was found to have a dilated stomach, prolapsed bowels, and some displacement of the pelvic viscera. She had been under constant treatment for the pelvic disorder for a long time, but without benefit. By the application of an abdominal supporter, and the employment of proper measures of treatment the patient was restored to good health, and still continues so after the lapse of four or five years.



ELECTRICAL DEVICE FOR LOCATING THE LOWER BORDER OF THE STOMACH.

Case 3.—Mrs. M., aged twenty-seven years, had been for six or seven years a complete invalid; she was constantly afflicted with morbid fears. She could not endure to be alone, was sleepless, depressed, and constantly haunted with a fear of death. At the end of four or five months' treatment the patient returned home enjoying excellent health; and although several years have since elapsed, she still remains well.

I might prolong this paper to an almost indefinite length in reporting various forms of nervous disorders, the uric acid and other diatheses, of chronic disorders of the bladder in men and women, of prostatic disease in men, and many other conditions, in those who have visited the Sanitarium for relief after having sought it in vain for long periods under the conditions available at home.

I wish, in conclusion, to say, as at the outset, that I claim neither special skill nor the possession of any unique or peculiar methods of treatment by which success may be obtained in the

treatment of cases which have been regarded as incurable ; but that I attribute the success which I have had the pleasure of constantly meeting, in dealing with this class of disorders, wholly to the judicious regulation of diet, regimen, and individual habits, in connection with the application of the resources of sanitary methods, particularly those measures which may properly be termed rational or physiological, and the use of which may be, to say the least, most conveniently managed in a well-equipped and scientifically conducted sanitarium.

In connection with the above paper, the writer presented and described two new instruments :—



NATURAL ABDOMINAL SUPPORTER.

1. An instrument for locating the lower border of the stomach in cases in which this cannot be done by palpation or clapotement. This instrument consists of a tube resembling

an ordinary stomach-tube, in one end of which is arranged an electrical device whereby a humming or buzzing sound is produced when an alternating electrical current is passed through it. Passing the



SUPPORTER, SHOWING PAD IN BACK.

tube into the stomach, it is only necessary to locate the sound by the stethoscope as the tube is passed in different directions, to outline the lower border of the stomach.

2. The abdominal supporter, constructed somewhat on the principle of a hernial truss, the relaxed abdominal wall being treated as a double hernia.

